

WHAT IS CLAIMED IS:

1. A powered vehicle (100) comprising,
 - a frame (1) having a shape of a circular disk with a vertical axis (110) defined at the center of said circular disk,
 - first and second drive wheels (2) coupled to said frame, each of said drive wheels capable of powered rotation about a horizontal axis (120) disposed about through said vertical axis, each of said drive wheels capable of forward and rearward rotation about said horizontal axis,
 - means (4, 5, 6, 7) for independently controlling the direction of rotation and the speed of said first and second drive wheels,
 - a trolley (9) rotatably coupled about the outer perimeter of said frame,
 - a material handling tool mounted on said trolley,
 - first and second castors (3) mounted on said trolley (9) for supporting said frame on the ground, whereby
 - when said first and second drive wheels are rotated in opposite directions and at substantially the same speed, said vehicle spins generally about said vertical axis.
 2. The vehicle of claim 1 further comprising,
 - a circular rail (8) disposed about the outer perimeter of said frame, and
 - said trolley (9) is rotatably mounted on said rail.
 3. The vehicle of claim 1 further comprising
 - a hitch (54) mounted on said trolley designed and arranged for coupling to a tool.
 4. The vehicle of claim 1 further comprising,
 - a free spinning wheel (3') rotatably mounted to said frame for supporting said frame on the ground, said free spinning wheel capably of aligning in any horizontal direction.
 5. The vehicle of claim 1 further comprising

an operator seat (13) mounted on said frame at a position intersected by said vertical axis and between said first and second drive wheels.

6. The vehicle of claim 5 further comprising

a first control lever (7) positioned on a first side of said operator seat, said first control lever operatively coupled to a first power source (6) for controlling the speed and direction of rotation of a first drive wheel, and

a second control lever (7) positioned on a second side of said operator seat, said second control lever operatively coupled to a second power source (6) for controlling the speed and direction of rotation of a second drive wheel, wherein

each of said first and second drive wheels are controlled independently of each other.

7. The vehicle of claim 1 further comprising

a latch (10) removably coupled between said frame and said trolley and designed and arranged to prevent movement therebetween.

8. The vehicle of claim 1 further comprising

a first outrigger (56) mounted between said first caster and said trolley, and

a second outrigger (56) mounted between said second caster and said trolley.

9. The vehicle of claim 1 further comprising,

a counterweight (52) rotatably coupled about the outer perimeter of said frame.

10. The vehicle of claim 9 further comprising

a linkage (50) disposed between said trolley and said counterweight and attached therebetween, said linkage being rotatably independent from said frame and designed and arranged to cover said trolley and said counterweight to rotate in coordination with respect to said frame.

11. The vehicle of claim 1 further comprising

a plow assembly (59, 63) selectively coupled to said trolley, said plow assembly having a blade (60, 62) and at least one actuator (61) coupled between said blade and said trolley which is designed and arranged for horizontal and vertical positioning of said blade.

12. The vehicle of claim 1 further comprising

a soil bucket assembly selectively coupled to said trolley.

13. The vehicle of claim 12 wherein said soil bucket assembly includes,

a bucket (64),

a lifting tower (66) coupled to said trolley designed and arranged to support and guide said bucket, said bucket having a hinge slideably coupled to said lifting tower,

a tilting actuator (69) coupled between said trolley and said bucket designed and arranged to tilt said bucket about said hinge, and

a lifting apparatus (67) coupled between said lifting tower and said bucket and designed and arranged to vertically position said bucket with respect to said lifting tower.

14. The vehicle of Claim 1 further comprising

a fork lift assembly selectively coupled to said trolley.

15. The vehicle of claim 14 further comprising

a fork (68),

a lifting tower (72) coupled to said trolley designed and arranged to guide and support said fork, said fork slideably coupled to said lifting tower,

a tilting actuator (69) coupled between said lifting tower and said trolley designed and arranged to tilt said lifting tower, and

a lifting apparatus (71, 73, 75) coupled between said lifting tower and said fork designed and arranged to vertically position said bucket with respect to said lifting tower.

16. The vehicle of claim 1 further comprising

a broom (76) coupled to said trolley, and

an actuator (69) coupled between said broom and said trolley and designed and arranged for vertical positioning of said broom.

17. The vehicle of claim 1 further comprising

a mower assembly (77) coupled to said trolley.

18. The vehicle of claim 1 further comprising

a squeegee (79) coupled to said trolley, and

an actuator (61) coupled between said squeegee and said trolley designed and arranged for horizontal and vertical positioning of said squeegee.

19. The vehicle of claim 1 further comprising

a rotary brush (78) coupled to said trolley.

20. The vehicle of claim 1 further comprising

a vacuum coupled to said trolley.

21. The vehicle of claim 1 further comprising

a spreader coupled to said trolley.

22. An omni direction vehicle comprising,

a frame with an outer rail which is in the shape of a circle defined about a vertical axis through said frame,

first and second drive wheels coupled to said frame, each of said drive wheels capable of powered rotation about a horizontal axis and capable of forward and rearward rotation about said horizontal axis,

a trolley rotatably supported on said rail and by two casters and including a hitch for coupling to a material handling tool,

said vehicle having a power source mounted on said frame and arranged and designed to rotate said first and second drive wheels.